# Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

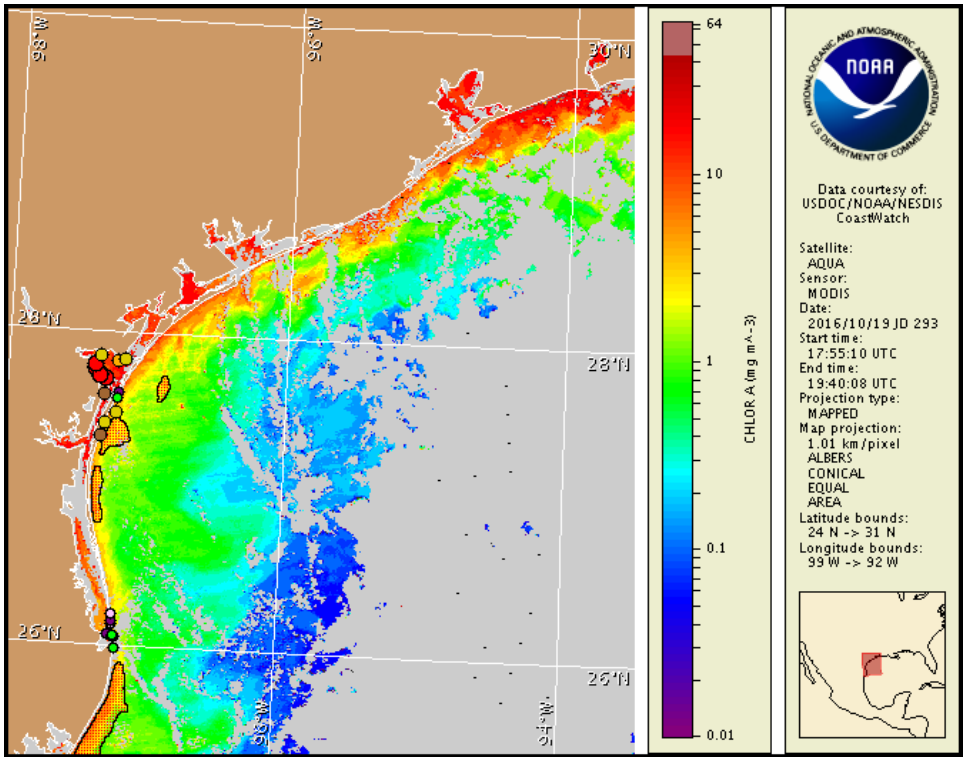
Thursday, 20 October 2016

NOAA National Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Monday, October 17, 2016




Satellite chlorophyll image with possible *K. brevis* HAB areas shown by red polygon(s), when applicable. Points represent cell concentration sampling data from October 10 to 19: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/hab_publication/habfs_bulletin_guide.pdf

Detailed sample information can be obtained through the Texas Parks and Wildlife Department at:

http://www.tpwd.state.tx.us./landwater/water/environconcerns/hab/redtide/status.phtml

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To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive:

http://tidesandcurrents.noaa.gov/hab/bulletins.html

## Conditions Report

*Karenia brevis* (commonly known as Texas red tide) ranges from not present to high concentrations along the Texas coast in the Aransas Pass to Rio Grande regions. *K. brevis* concentrations are patchy in nature and levels of respiratory irritation will vary locally based upon nearby bloom concentrations, ocean currents, and wind speed and direction. The highest level of potential respiratory irritation forecast for Thursday, October 20 to Monday, October 24 is listed below:

**County Region**: Forecast (Duration)
**Bay region-Corpus Christi Bay**: Moderate (Th-M)
**Bay region-Upper Laguna Madre**: Low (Th-M)
**Aransas Pass to PINS**: Very Low (Th-F), Moderate (Sa-M)
**Padre Island National Seashore region**: Moderate (Th-M)
**Mansfield Pass to Beach Access 6 region**: Very Low (Th-M)
**Beach Access 6 to Rio Grande region**: Very Low (Th-M)
**Bay region-Lower Laguna Madre to Laguna Vista**: Very Low (Th-M)
**All Other Texas Regions**: None expected (Th-M)

Check http://tidesandcurrents.noaa.gov/hab/beach_conditions.html for recent, local observations. Over the past few days, reports of dead fish have been received in the Corpus Christi Bay region.

## Analysis

*Karenia brevis* concentrations range between 'not present' and 'high' along the Texas coast from Aransas Pass to the Rio Grande, with the highest concentrations in Corpus Christi Bay (TPWD; 10/10-10/20). In the Corpus Christi Bay region, samples indicate up to 'medium' concentrations in the Corpus Christi Channel area (TPWD; 10/19). In the Aransas Pass to Padre Island National Seashore (PINS) region, sampling from the Texas A&M University's Imaging FlowCytobot, located on the Port Aransas ship channel, indicates 'background' to 'low b' *K. brevis* concentrations (TAMU; 10/17-20). In the Upper Laguna Madre region, up to 'low a' *K. brevis* concentrations were collected (TPWD; 10/17-19). In the Beach Access 6 to Rio Grande and Lower Laguna Madre to Laguna Vista regions, recent samples indicate that *K. brevis* concentrations have declined to 'not present' (TPWD; 10/17-18). Detailed sample information and a summary of impacts can be obtained through Texas Parks and Wildlife Department at: http://www.tpwd.state.tx.us./landwater/water/environconcerns/hab/redtide/status.phtml. For information on area shellfish restrictions, contact the Texas Department of State Health Services.

Recent MODIS Aqua imagery (10/19; shown left) is partially obscured by clouds along- and offshore the Matagorda Peninsula and Beach 6 to Rio Grande regions, limiting analysis. Elevated to very high chlorophyll (2 to >20 $\mu$g/L) is visible along- and offshore from Sabine Pass to the Matagorda Peninsula region, but elevated chlorophyll in this region is not necessarily indicative of the presence of *K. brevis* and may be due to the resuspension of benthic chlorophyll and sediments along the coast. Patches of elevated to high chlorophyll (2-15 $\mu$g/L) are visible along- and offshore from the Matagorda Island region to approximately PINS Mile Marker #40 and extending from the Rio Grande to approximately 140 km south. Continued sampling in these areas is recommended.

Forecast models based on predicted near-surface currents indicate a maximum transport of 110 km south from the Port Aransas region, 100 km south from PINS Mile Marker #15, and 80 km south from Brazos Santiago Pass from October 19-23.

Kavanaugh, Davis

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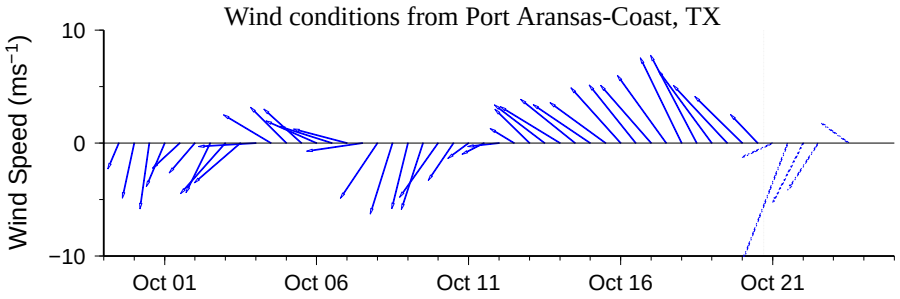
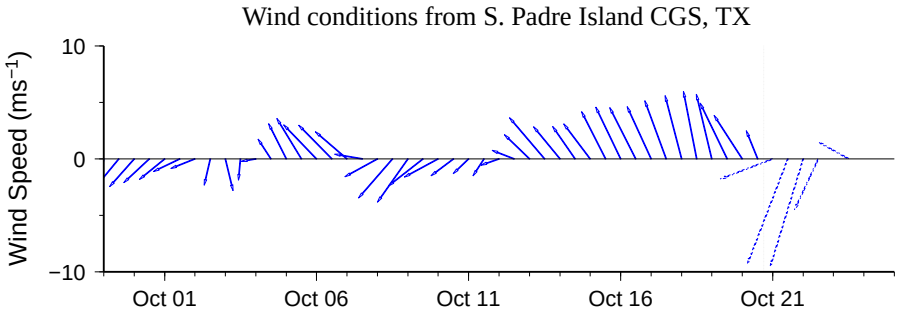


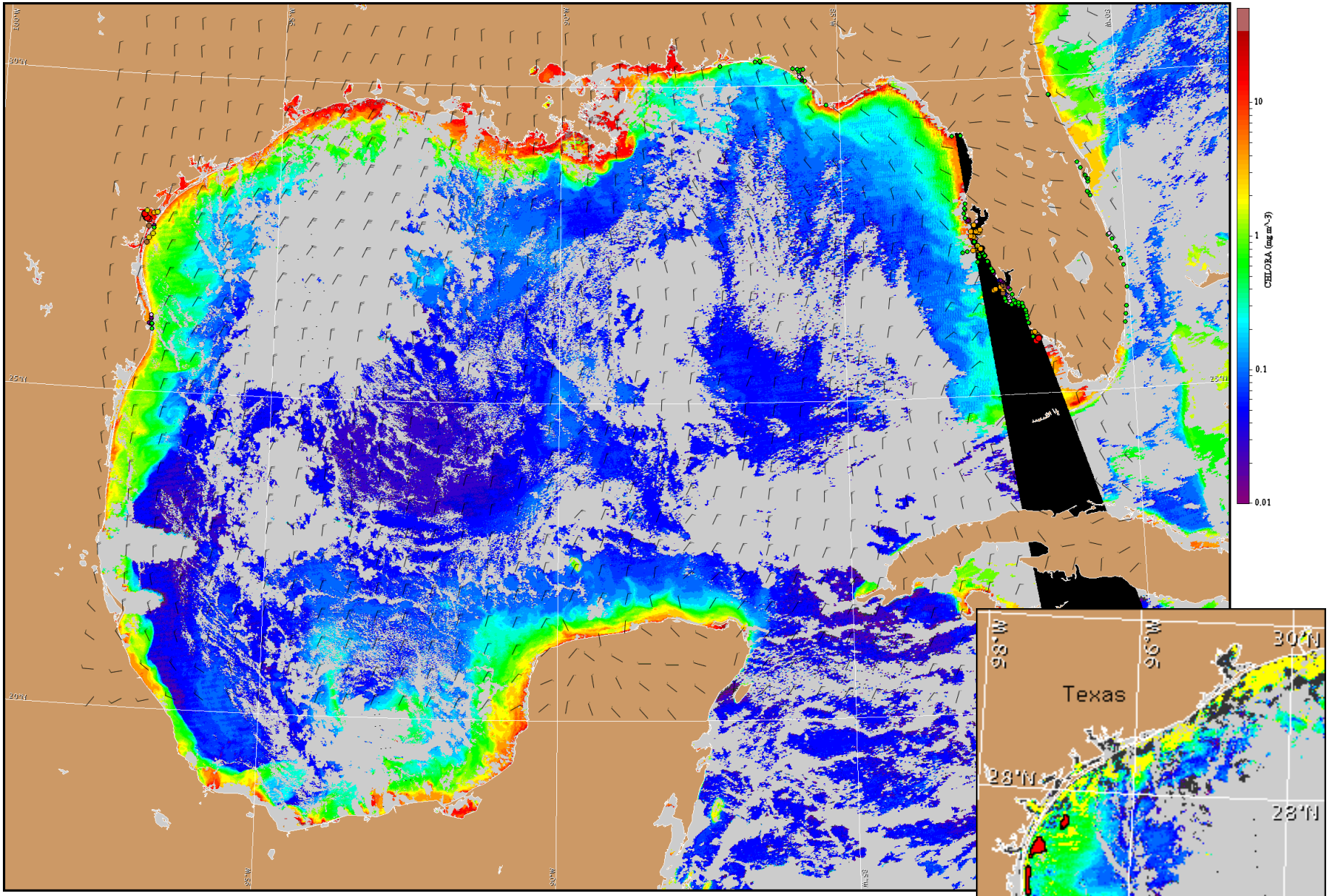

Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).




# Wind Analysis

**Baffin Bay to Port Aransas**: Northeast winds (5-15kn, 3-8m/s) today. North to northeast winds (10-25kn, 5-13m/s) tonight through Saturday. East to southeast winds (10-15kn, 5-8m/s) Saturday night to Monday night.

**Port Mansfield to Rio Grande**: Light winds today becoming northeast winds (7-13kn, 4-7m/s) in the late morning and early afternoon. Northeast to north winds (8-25kn, 4-13m/s) tonight through Saturday. Southeast winds (7-14kn, 4-7m/s) Saturday night through Monday night.




Satellite chlorophyll image and forecast winds for October 21, 2016 12Z with points representing cell concentration sampling data from October 10 to 19: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

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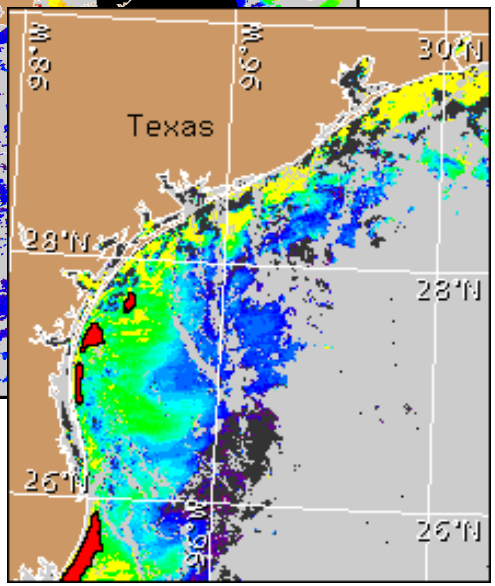


Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).